$$D_0 = (N / 3600) * DF * (C / 2)\left[1 - (g / C)\right]^2 \qquad (30\text{-}7)$$

where

D_0 = zero-flow control delay at signal (h),
N = number of signals on link,
3600 = conversion from seconds to hours,
g/C = average effective green time per cycle for signals on link (s)
C = average cycle length for all signals on link (s), and
DF = adjustment factor to compute zero-flow control delay (0.9 for uncoordinated traffic-actuated signals, 1.0 for uncoordinated fixed-time signals, 1.2 for coordinated signals with unfavorable progression, 0.90 for coordinated signals with favorable progression, and 0.60 for coordinated signals with highly favorable progression).

$$J = \frac{\left[(R_C - R_0 - D_0 - D_M)^2\right]}{L^2} \qquad (30\text{-}8)$$

where

J = calibration parameter,
R_C = link traversal time when demand equals capacity (h),
R_0 = FFS link traversal time (h), and
D_0 = zero flow control delay (h)
D_M = segment delay between signals (h), and
L = link length (mi).

The final step of this methodology is to determine several performance measures. The intensity, duration, extent, and variability of congestion as well as the accessibility of a facility can be found using the procedures in this HCM chapter and Equations 30-9 through 30-15. Every roadway is classified by facility type as a freeway, multilane highway, two-lane highway, arterial, collector, or local road. Then, the following input factors, which Asheville examines in determining the capacity of a specific roadway, are assigned values: posted speed, free flow speed, grade, number of through lanes, area type (urban or rural), truck percentage, left-turn bays, one-way or two-way traffic flow, and median presence. The input factors and facility type are then coupled together to form a specific set of "capacity-related variables" for the particular roadway. These variables are then input into the appropriate table (out of a possible 50 tables in the Asheville model) that gives the expected capacity for a roadway having any combination of these variables. This capacity is the ultimate capacity for the roadway (boundary between LOS